

**ABSTRACT**

A high-power semiconductor module (10) has a number of flat semiconductor chips (14) which rest with their lower face flat on a base plate (11), establishing first electrical contacts, and have a cover plate (13), which is arranged parallel to the base plate (11), applied to their upper face with pressure, establishing second electrical contacts. In a module such as this, simplified cooling is made possible in that those faces, or outer faces, of the base plate (11) and of the cover plate (13) which face away from the semiconductor chips (14) are each electrically isolated from the semiconductor chips (14).